



December 6, 2010

Ms. Stephanie Sanzone
Designated Federal Officer
Science Advisory Board Staff Office
U.S. Environmental Protection Agency (MC-1400R)
1200 Pennsylvania Ave, NW
Washington, DC 20460

Dear Ms. Sanzone

Subject: Comments on “Methods and Approaches for Deriving Numeric Criteria for Nitrogen/Phosphorus Pollution in Florida’s Estuaries, Coastal Waters, and Southern Inland Flowing Waters”, released November 17, 2010

The Everglades Foundation welcomes the development, implementation, and enforcement of environmentally protective numeric nutrient criteria for inland flowing and marine waters (i.e., those extending out to 3 miles offshore), and we appreciate the opportunity to comment on the different methods being considered for use across the greater Everglades ecosystem. Adherence to the narrative standard for Florida’s waters as well as these new numeric criteria will be a significant step towards (1.) restoring waters around the greater Everglades ecosystem that have already been degraded or (2.) protecting those areas of the coastal Everglades ecosystem that have yet to exhibit significant deterioration.

Selection of most appropriate methods will not be an easy task. EPA has done a satisfactory job of identifying the strengths and weaknesses of the different methods being considered for south Florida’s inland flowing and marine waters as well as the availability of existing water quality data. Estuarine and coastal water quality is highly variable and affected by a multitude of factors other than freshwater inflows such as tides, storm surges, upwelling events, etc. Further, intensive management of most of south Florida’s inland flowing waterways can obscure development of stressor-response relationships, since water residence times can vary dramatically. From a compliance standpoint, monitoring programs will need to be created, expanded or optimized, to sufficiently capture inter- and intra-annual variability and to allow for differentiation of natural sources of nutrients from human/management sources.

In their document, EPA recognizes the existing 10 ppb TP criterion from the Everglades Forever Act and therefore proposes to use a derivation of that (expressed as either a concentration or protective load) in the development of downstream protection values (DPVs). These will effectively serve to link inland waters to the marine interface where water quality along the coastline of south Florida has been relatively well monitored over

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the past two decades as a result of the connection to the greater Everglades ecosystem, documented sensitivity to impacts, and the value of coastal resources.

EPA recognizes the spatially extensive long-term water quality data set from the Southeast Environmental Research Center (SERC) at Florida International University. This monitoring program has greatly aided our ability to differentiate impaired coastal waters in south Florida from unimpaired and has also been highly effective at identifying and delineating coastal water quality “segments” that are attributable to differences in watershed influence, residence time, dominant vegetation type, geomorphological characteristics, etc. The continued availability of such data will lead to a better understanding of impacts due to human activities and the implementation of more protective standards.

Further, recent presentations and reports by Drs. Joseph Boyer and Henry Briceño at SERC have shown that the Z cumulative sum (ZCUSUM) is an excellent way of illustrating and identifying local and regional time series shifts in water quality that would otherwise seem “noisy”. They have also presented compelling and surprisingly precise stressor-response relationships for many of the water quality segments along the south Florida coastline. In many instances, their estimates approximate the 50th percentile of the statistical distribution. In others, their empirically based approach would be more protective of our coastal waters than the percentile based methods considered by EPA. Although their method requires further scrutiny, we encourage EPA consider this as one approach for identifying thresholds for south Florida’s coastal and estuarine waters. At the very least we recommend they use the ZCUSUM approach as an empirically based line-of-evidence in support of their proposed percentile (i.e., statistically) based approach.

Thank your for the opportunity to provide comment.

Sincerely,

Stephen E. Davis, III, Ph.D.
Wetland Ecologist